ACTiSYS

The Wireless Connectivity Expert

IrReady

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ACT-IR220L+/220L/200L

IrDA PC Adapter

User's Manual

FC
FCC ID : KPRACTIR22XX

C E

July 8, 2008
Version 1.5.1.1

<u>**FCC Compliance Statement**</u>

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1)This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.
WARNING-FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user authority to operate this equipment

NOTE: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Increase the separation between the equipment and receiver.
-Reorient or relocate the receiving antenna.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for helps.

NOTE: Must be used with shielded cable only.

FOR YOU RECORDS
For your assistance in reporting this product in case of loss or theft, please record the model and serial number that is located on the bottom of the case. Please retain this information.

Model Number_____.   **Serial Number**_____.

Date of Purchase _____.   **Place of Purchase**_____.

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TABLE OF CONTENTS

REVISION HISTORY

Revision History		
Revision	**Date**	**Comment**
1.5.1	1/6/2006	• Overall Reformat. Rewrite some Chapters. • Add cross-out wheeled bin logo at the warranty chapter, per WEEE directive, EN-50419.
1.5.1.1	7/08/2008	• Updated company address

ACTiSYS reserves the right to make changes without further notice to any products herein to improve reliability, function or design. ACTiSYS does not assume any liability arising out of the application or use of any product or circuit described herein.

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1. OVERVIEW

This document provides instructions to install the ACT IR220L+/220L/200L Serial-IR dongle along with Windows 98/ME/2000/XP device driver. It is assumed that the user is familiar with basic operation of Windows.

2. PACKING LIST

When you unpack the package, the following items should be found:

A. ACT-IR220Lplus or ACT-IR220L or ACT-IR200L.

B. User's Guide CD

3. SYSTEM REQUIREMENTS

To use ACT-IR220L+/220L/220L, your computer MUST meet the following requirements:

A. Windows 98/ME/2000/XP.

B. One unoccupied Serial (RS232) COM port.

C. One unoccupied virtual COM port (Com 4)

4. BIOS SETUP VERIFICATION

Before installing the device driver, you **MUST** setup or verify your BIOS **FIRST**.

Below demonstrates an example of ACT-IR220L+ being installed on Com2:

A. Choose **PNP & PCI** from BIOS SETUP:

PNP OS Installed:	NO
Resource Controlled by:	Manual

B. Choose **Integrated Peripherals** from BIOS SETUP:

Onboard UART2 Serial Port 2 :	2F8H/IRQ3
Onboard IR function:	Disable *or*
UART2:	Normal

5. WINDOWS 98 INSTALLATION GUIDE

Note 1: If you have not verified your BIOS setup at this point, we strongly recommend you to refer back to the Chapter 4 BIOS SETUP VERIFICATION and verify your BIOS setup again.

Note 2: Verify that the COM port you will use to install ACT-IR220L/220L+/200L has not been already used or occupied by any hardware or software. We recommend users to completely delete any files or drivers that can interrupt clean fresh installation of our product.

Note 3: You are trying to install an SIR product. Your operating system can always be upgraded to use FIR products. However you can never downgrade from an FIR product to an SIR product. Therefore make sure that you have not previously installed any other FIR products on your system.

Followings are the instructions to properly install the ACT-IR220L+/220L/200L Dongle. You need a computer system with Windows 98 already installed and at least one serial port available. The best choice for the system is a desktop PC.

A. Connect ACT-IR220L+/200L serial adapter to the COM Port of Desktop PC.

B. Boot up your computer system.

C. Double Click **My Computer** on DeskTop.

D. Double Click **Control Panel**.

E. Double Click **Add New Hardware** on Control Panel Window.

F. Click **Next>**.	

Version 1.5.1.1

G. Click **Next>**.

H. Select **No, I want to select the hardware from a list**. Then click **Next**>.

I. Highlight **Infrared Devices** from the **Hardware types** list, then click **Next>**.

J. Click **Next>**.

Add Infrared Device Wizard

This wizard will help you install an infrared device.

Microsoft Infrared Support enables you to
- Send and receive files
- Print files to IrDA compliant printers
- Access a network

To continue, click Next.

< Back | Next > | Cancel
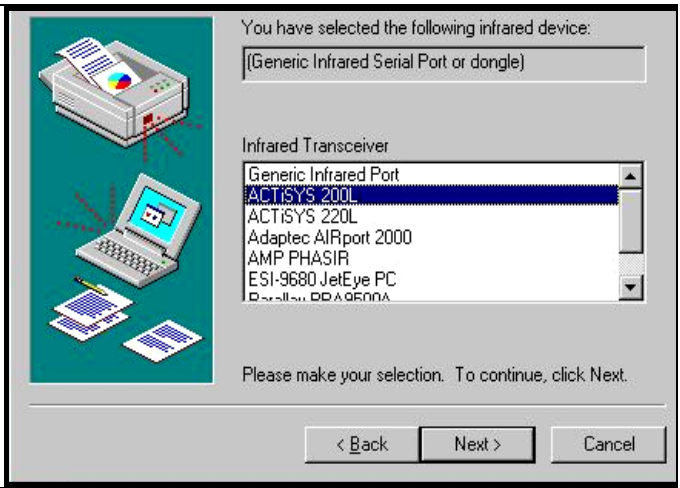
K. From **Manufacturers** list, choose [**Infrared COM port or dongle].** From I**nfrared Devices** list, choose **(Generic Infrared Serial Port or dongle)**. Then click **OK>**.

Add Infrared Device Wizard

Click the manufacturer of the infrared device. Then click the infrared device type that matches your hardware. Then click OK. If you have an installation disk for this device, click Have Disk.

Manufacturers:
[Infrared COM port or dongle]
IBM
National Semiconductor
SMC
Toshiba
Winbond Electronics Corp.

Infrared Devices:
(Generic Infrared Serial Port or dongle)
Infrared PnP Serial Port
Infrared PnP Serial Port (*PNP0510)

Have Disk...

OK | Cancel

L. Choose **ACTiSYS IR-200L** if you are an ACT-IR 200L user. Then click **Next**.

You have selected the following infrared device:
(Generic Infrared Serial Port or dongle)

Infrared Transceiver
Generic Infrared Port
ACTiSYS 200L
ACTiSYS 220L
Adaptec AIRport 2000
AMP PHASIR
ESI-9680 JetEye PC
Parallax PRA9500A

Please make your selection. To continue, click Next.

< Back | Next > | Cancel

Version 1.5.1.1

M. Choose **ACTiSYS IR-220L/ 220L+** if you are an ACT-IR-220L/ ACT-IR220L+ User. Then click **Next>**.	**Add Infrared Device Wizard** You have selected the following infrared device: (Generic Infrared Serial Port or dongle) Infrared Transceiver Generic Infrared Port ACTiSYS 200L ACTiSYS 220L Adaptec AIRport 2000 AMP PHASIR ESI-9680 JetEye PC Parallax PPA9500A Please make your selection. To continue, click Next. < Back Next > Cancel
N. Select **COM port** which is physically connected to the Dongle. In most cases, the Dongle is connected to COM2. Choose **Communication Port (COM2)** from the Port list, click **Next>**.	**Add Infrared Device Wizard** You have selected the following infrared device: (Generic Infrared Serial Port or dongle) Select the port to which the infrared device is physically connected. Communications Port (COM2) Communications Port (COM1) Communications Port (COM4) Please make your selection. To continue, click Next. < Back Next > Cancel

O. Reboot your computer.

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6. WINDOWS 98 UNINSTALLATION GUIDE

A. Boot up your computer system.

B. Click **Control Panel**.

C. Double click **System** Icon.

D. Click **Device Manager** tab.	
E. Highlight **Infrared Communication Device** from **Infrared devices**, and then click **Remove**.	

Version 1.5.1.1
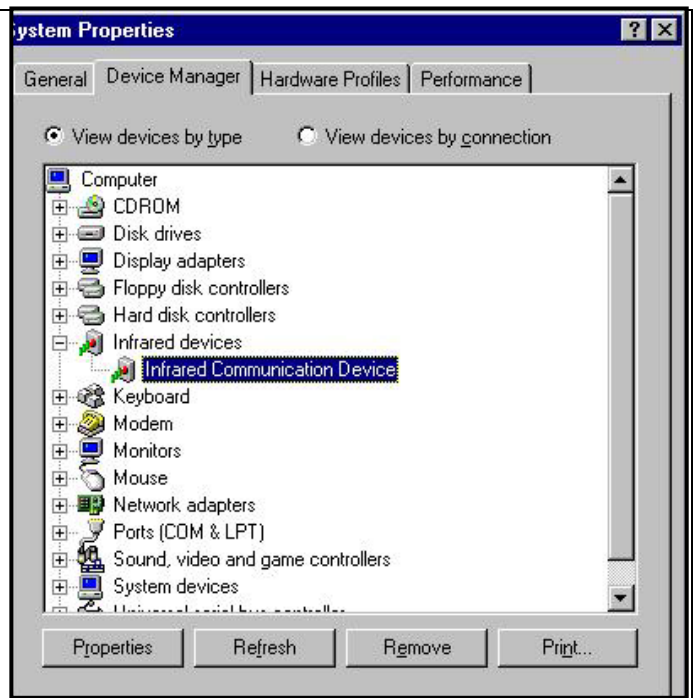
F. Click **OK** in the **Confirm Device Removal** box.

G. Highlight **(Generic Infrared Serial Port or dongle)**, then click **Remove**.

H. Click **OK** in the **Confirm Device Removal**.

The Wireless Connectivity Expert
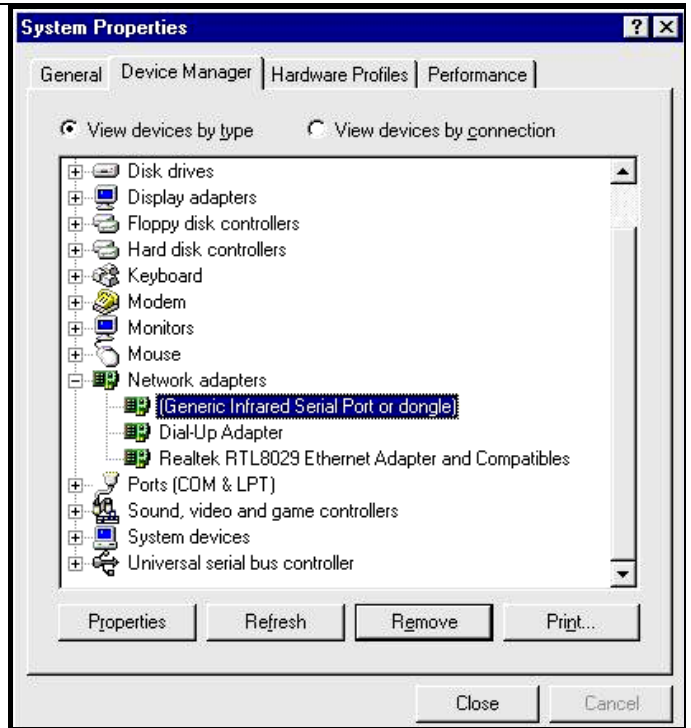
I. Click **Yes** to restart your computer.	

7. WINDOWS 2000 INSTALLATION GUIDE

Note1.: If you do not change your computer BIOS setting, **STOP** here and go to Chapter 4 BIOS SETUP VERIFICATION.

Note2: If your computer system has installed some devices on the same com port before, you **MUST** properly uninstall the devices first. ACT-IR220L+/220L/200L would **NOT** work with your system any more if the devices are uninstalled improperly because some drivers are still there and cause conflicts with ACT-IR220L+/220L/200L driver. You **HAVE** to re-install your Windows 2000 again.

Note3: If your computer system has installed an **FIR** device before, ACT-IR220L+/220L/200L would **NOT** work with your system any more. You **HAVE** to re-install your Windows 2000 again.

Note4: If you want to use **Virtual COM Port** in your application, **STOP** here and change IR220L+/IR220L/IR200L to USB-IR Dongle.

Following are the instructions to properly install the ACT-IR220L+/220L/200L Dongle. You need a computer system with Windows 2000 already installed and at least one serial port available. The best choice for the system is a desktop PC.

A. Connect ACT-IR220L+/200L serial adapter to the COM Port of Desktop PC.

B. Startup your computer system

C. Click on **Control Panel**.

D. Double Click **Add/Remove Hardware**.

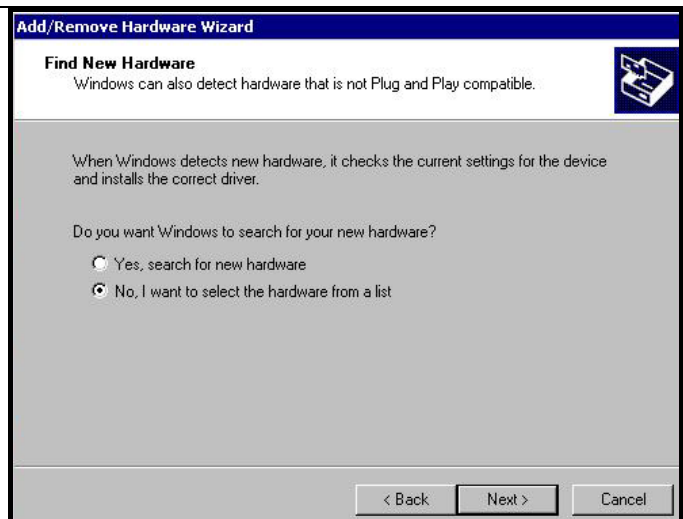|	
E. On **Welcome to the Add/Remove Hardware Wizard**, click **Next>**.	
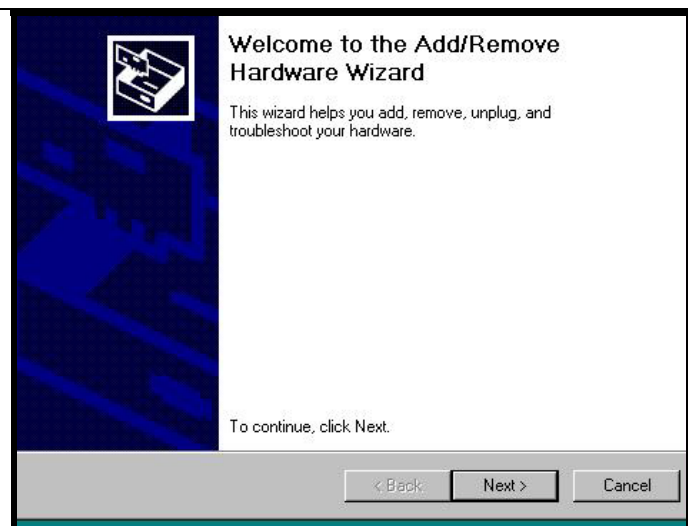
F. Choose **Add/Troubleshoot a device**, then click **Next>**. You may have to wait a while when the wizard searches for Plug and Play hardware.	Add/Remove Hardware Wizard — Choose a Hardware Task. Which hardware task do you want to perform? Select the hardware task you want to perform, and then click Next. ⦿ Add/Troubleshoot a device. Choose this option if you are adding a new device to your computer or are having problems getting a device working. ○ Uninstall/Unplug a device. Choose this option to uninstall a device or to prepare the computer to unplug a device. < Back / Next > / Cancel
G. Highlight **ADD a new drive** then click **Next>**.	Add/Remove Hardware Wizard — Choose a Hardware Device. Which hardware device do you want to troubleshoot? The following hardware is already installed on your computer. If you are having problems with one of these devices, select the device, and then click Next. If you are attempting to add a device and it is not shown below, select Add a new device, and then click Next. Devices: Add a new device, Floppy disk drive, MITSUMI CD-ROM FX810T !B, WDC WD200EB-00BHF0, ISAPNP Read Data Port, Realtek RTL8029(AS)-based PCI Ethernet Adapter, Intel 82371SB PCI to ISA bridge. < Back / Next > / Cancel
H. Choose **No, I want to select the hardware form a list** then click **Next>**	Add/Remove Hardware Wizard — Find New Hardware. Windows can also detect hardware that is not Plug and Play compatible. When Windows detects new hardware, it checks the current settings for the device and installs the correct driver. Do you want Windows to search for your new hardware? ○ Yes, search for new hardware. ⦿ No, I want to select the hardware from a list. < Back / Next > / Cancel

Version 1.5.1.1

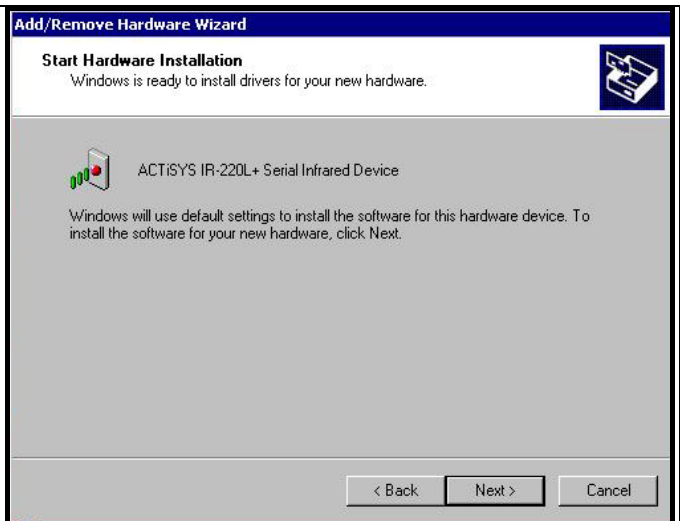|	
I. Select **the Infrared device** from the Hardware types.	
J. From Manufacturers list, choose **ACTiSYS**, from Infrared Device list, choose **ACTiSYS IR-200L Serial Infrared Device** for IR200L; click **Next**>.	
K. Choose **ACTiSYS IR-220L Serial Infrared Device** for IR220L, click **Next**>.	
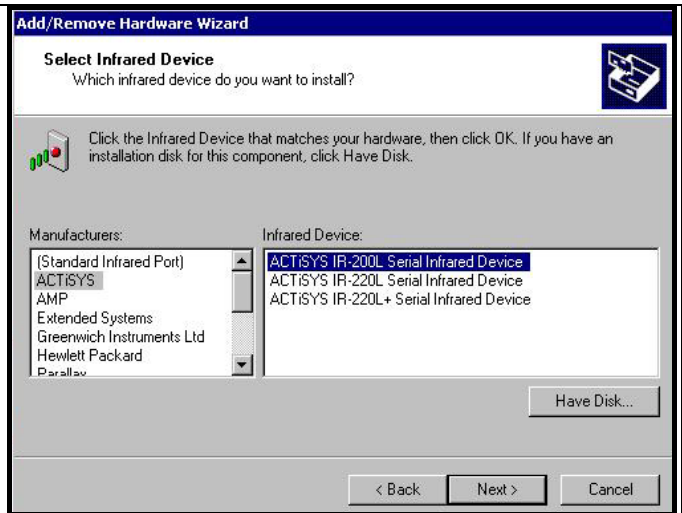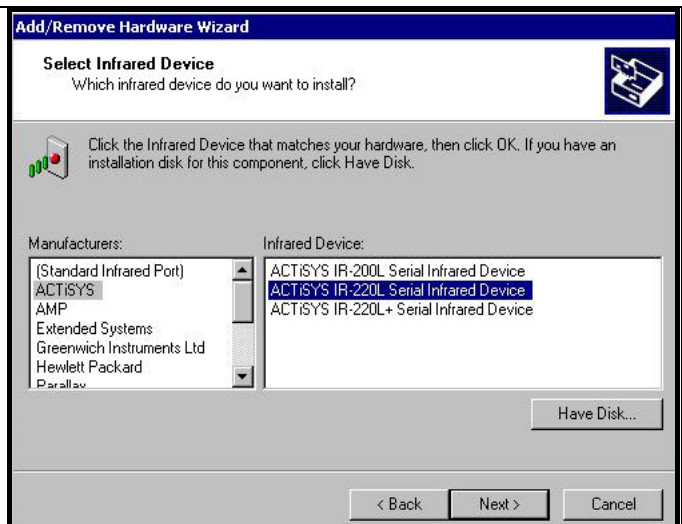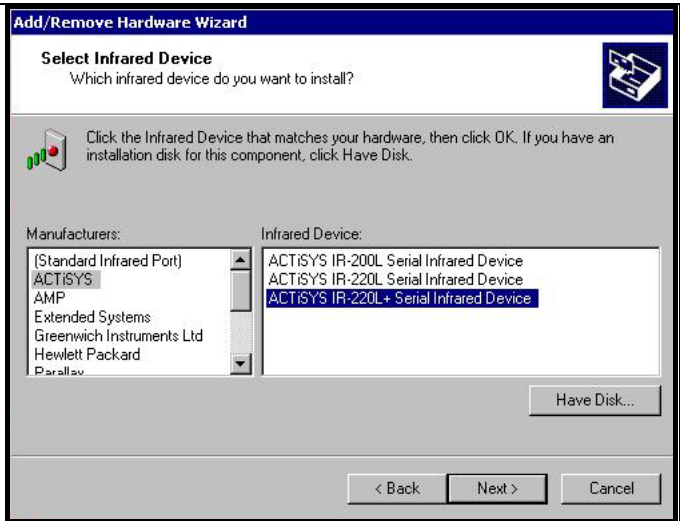
L. Choose **ACTiSYS IR-220L+ Serial Infrared Device** for IR220L+, click **Next>**.	
M. Click **Next>**.	
N. Choose **COM2** in the most cases, then click **Next>**.	

O. Click **Finish**.

Version 1.5.1.1

8. WINDOWS 2000 UNISTALLATION GUIDE

A. Startup your computer system.

B. Click on **Control Panel**.

C. Double click **System** Icon.

D. Click on **Hardware** tab, then click **Device Manager** button.	
E. Click on **Infrared devices**, then highlight **ACTiSYS IR-220L+Serial Infrared Device**.	

Version 1.5.1.1
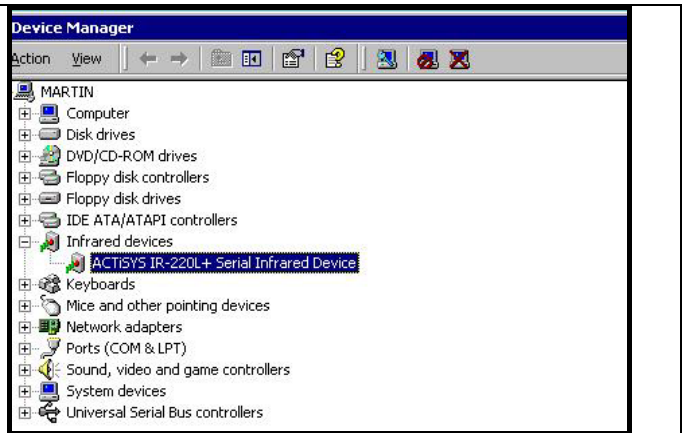
F. Click **Action** from the main and then click **Uninstall**.
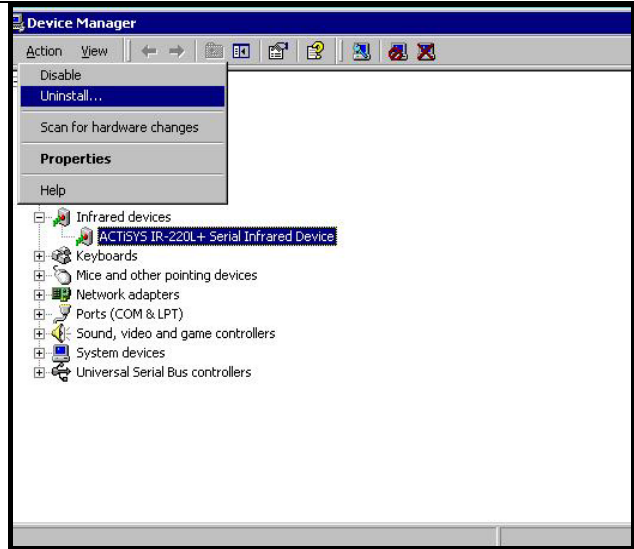
G. The device has then been uninstalled. You need to close device manager and restart your computer.
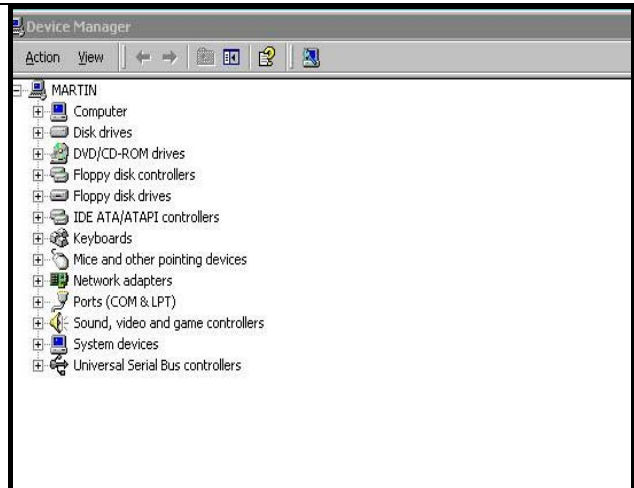
9. WINDOWS ME INSTALLATION GUIDE

Note 1: If you have not verified your BIOS setup at this point, we strongly recommend you to refer back to Chapter 4 BIOS SETUP VERIFICATION and verify your BIOS setup again.

Note 2: Verify that the Com port you will use to install ACT-IR220L/220L+/200L has not been already used or occupied by any other hardware or software. We recommend users to completely delete any files or drivers that can interrupt clean fresh installation of our product.

Note 3: You are trying to install an SIR product. Your operating system can always be upgraded to use FIR products. However you can never downgrade from an FIR product to an SIR product. Therefore, make sure that you have not previously installed any other FIR product on your system.

Note 4: You may experience problems if you are using a beta version of **Windows ME** or an old upgraded edition of **Windows ME**. Some **German** version of Windows ME has also known on lacking of virtual COM port. This problem may make our device incapable of communicating with the other devices.

Following are the instructions to properly install the ACT-IR220L+/220L/200L Dongle. You need a computer system with Windows ME already installed and at least one serial port available. The best choice for the system is a desktop PC.

A. Connect ACT-IR220L+/220L/200L serial adapter to the COM Port of Desktop PC.

B. Boot up your computer system.

C. Double Click **My Computer** icon on DeskTop

D. Double click **Control Panel** icon.

E. Double click **Add New Hardware** icon.

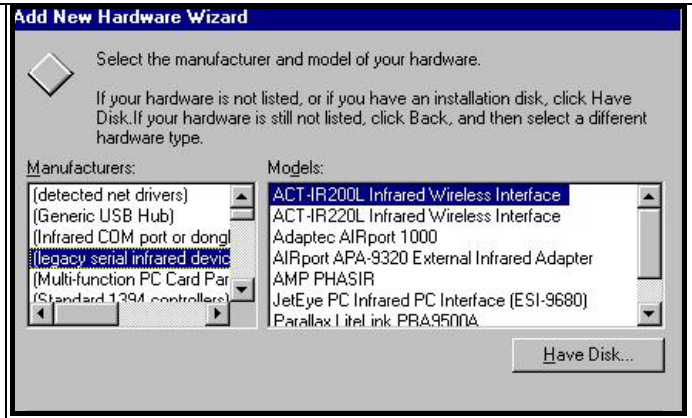| F. On the following boxes, click **Next>.**	

G. Click **Next>.**

H. Choose **No. I want to select the hardware from a list**. Then click **Next**>.

I. If you can not find Infrared device from **Hardware types** list, choose **Other devices** from the **Hardware types** list, then click **Next >.** Otherwise go to step **P.**
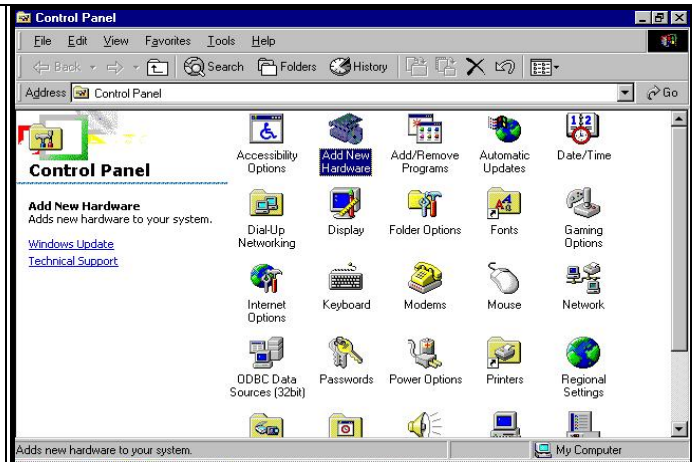
J. From **Manufacturers** list, choose (**legacy serial infrared device**). From **Models** list, choose **ACT-IR200L or IR220L+ Infrared Wireless Interface**, then click **Next>**.	
K. Click **Finish**.	
L. Double click **Add New Hardware** icon.	

M. Click **Next>.**	ew Hardware Wizard This wizard installs the software for a new hardware device. Before continuing, close any open programs. To begin installing the software for your new device, click Next. < Back / Next > / Cancel
N. Click **Next>.**	Add New Hardware Wizard Windows will now search for any new Plug and Play devices on your system. Your screen may go blank during this process. This is normal. To continue, click Next. < Back / Next > / Cancel
O. Choose **No. I want select the hardware from a list**, then click **Next>.**	Add New Hardware Wizard Windows can now search for hardware that is not Plug and Play compatible, or you can select your hardware from a list. When Windows detects new hardware, it automatically determines the current settings for the device and installs the correct driver. For this reason it is strongly recommended that you have Windows search for your new hardware. Do you want Windows to search for your new hardware? ○ Yes (Recommended) ⦿ No, I want to select the hardware from a list. < Back / Next > / Cancel

The Wireless Connectivity Expert

P. Highlight **Infrared device** from Hardware types list. Then click **Next>**	
Q. Click **Next>**.	
R. Select **Generic Infrared Serial Port dongle** from **Infrared COM port of dongle**. Then click **OK.**	

Jul. 8, 2008

Version 1.5.1.1

S. If your device is IR200L, choose **ACTiSYS IR200L Serial Infrared Device**, click **Next>**.
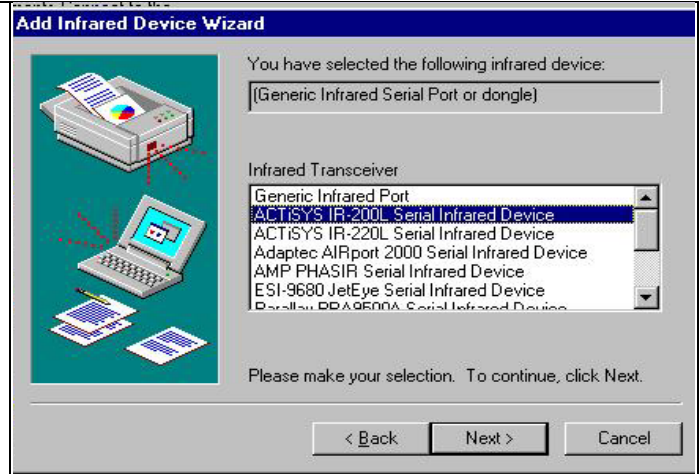
T. If your device is physically connected to COM2, highlight **Communications port (COM2),** then click **Next>**.

U. Select **Use default ports,** click **Next>**.

V. Click Finish

Add Infrared Device Wizard

Click Finish to complete the installation of your infrared device.

< Back | Finish | Cancel

Version 1.5.1.1
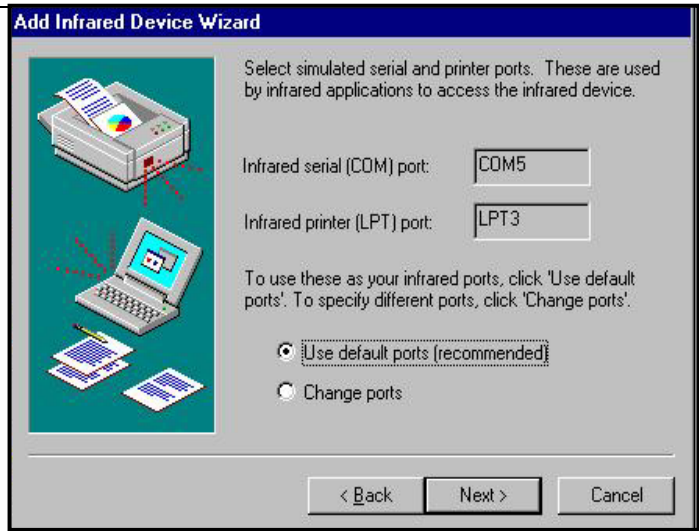
10. WINDOWS ME UNINSTALLATION GUIDE

A. Double click **System** icon on **Control Panel**.

B. Go to **Device Manager**, highlight the items in the **Infrared devices**.	
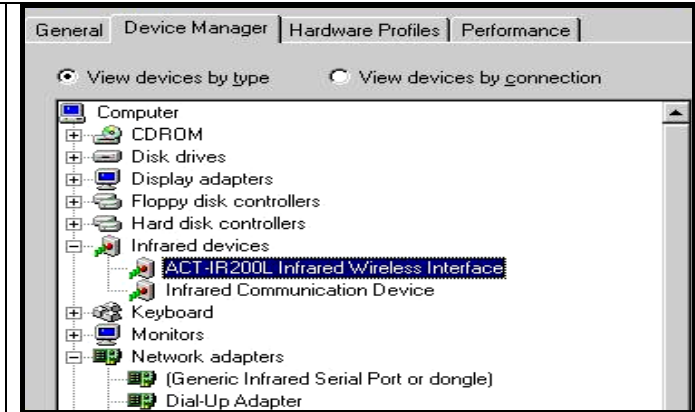
C. From the **Infrared devices**, highlight **Infrared Communication Device**, right click the quick menu, then click **Remove** button.	
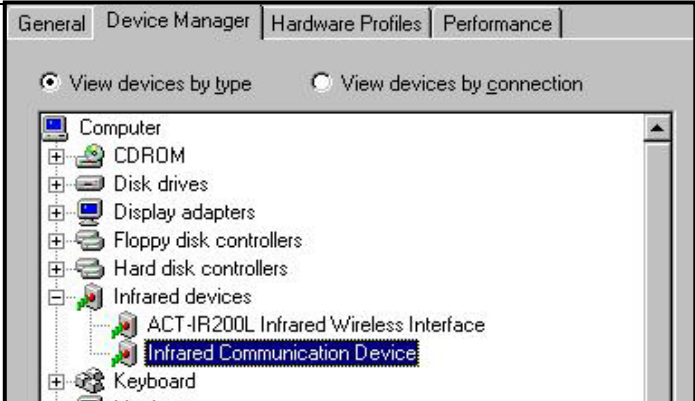
D. From **Network adapters**, highlight (**Generic Infrared Serial Port or dongle**), then click **Remove** button. Click **OK** button.	
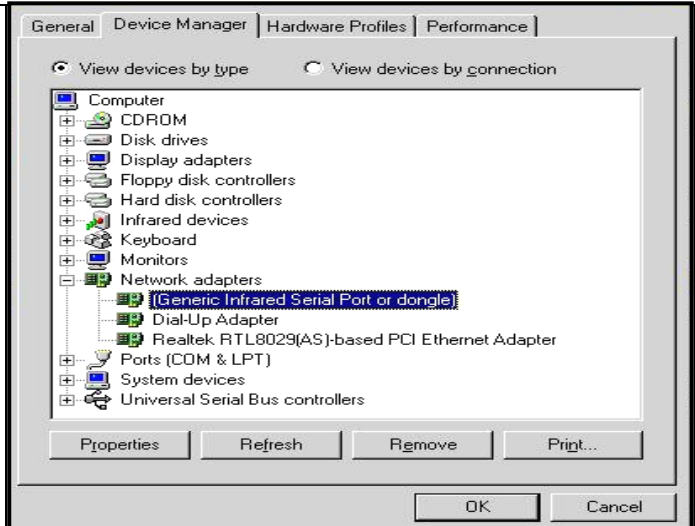
E. The device has been successfully uninstalled then.

11. WINDOWS XP INSTALLATION GUIDE

A. From Start menu, open **Control Panel**.

B. Double click **Add Hardware** icon.	
C. Click **Next>** from Add Hardware Wizard.	

D. Choose **Yes. I have already connected the hardware**. Then click **Next>**.

E. Wait processing
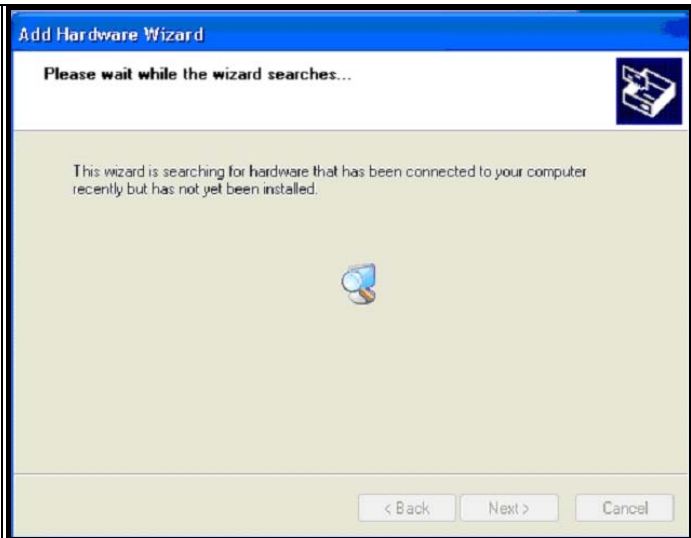
F. Choose **Add a new hardware device.** Then click **Next>**.
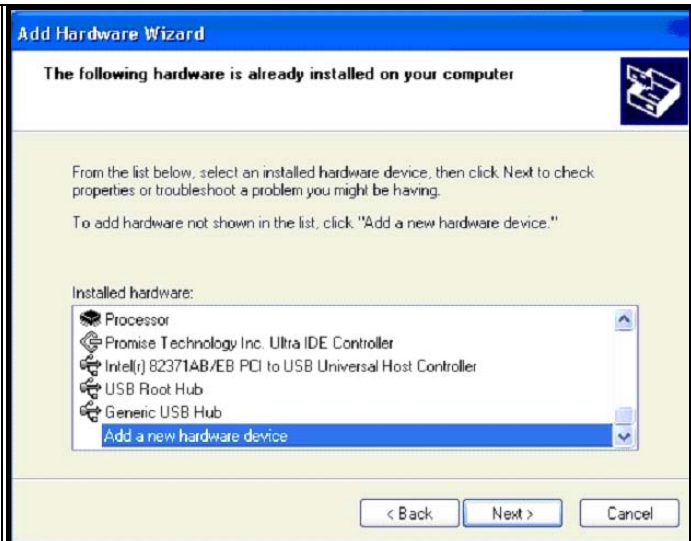
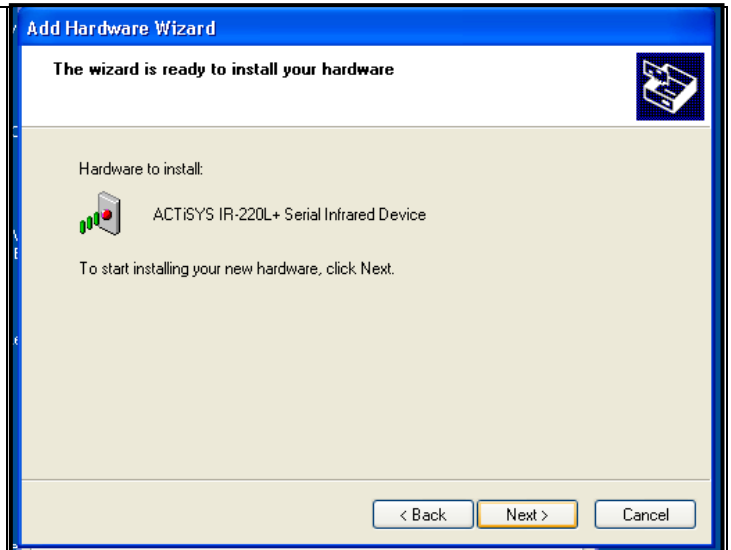**G.** Choose **install the hardware that I manually select from a list (Advanced).** Then click **Next>**.
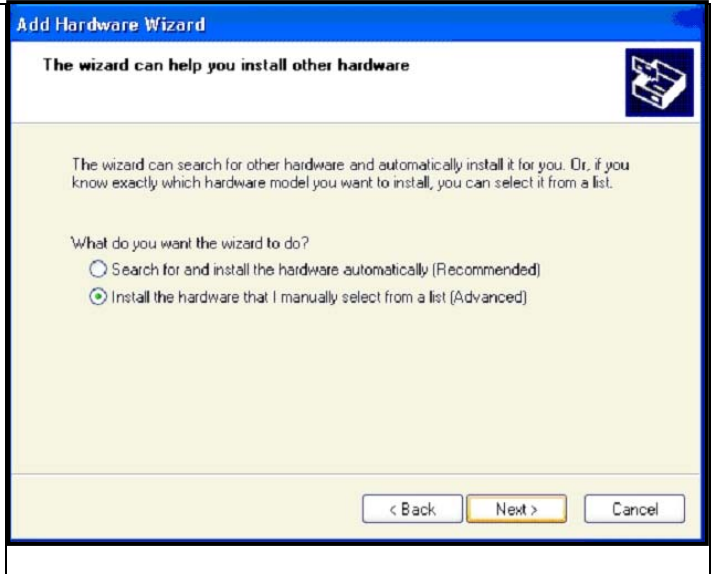
H. Choose **Infrared devices.** Then click **Next>**
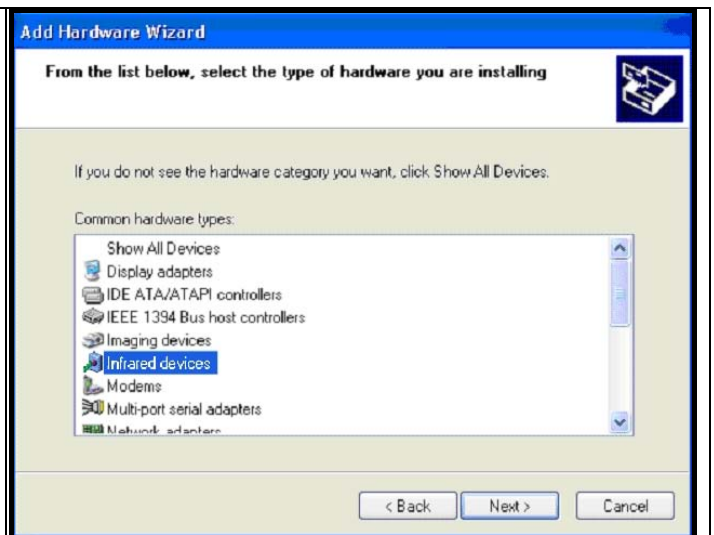
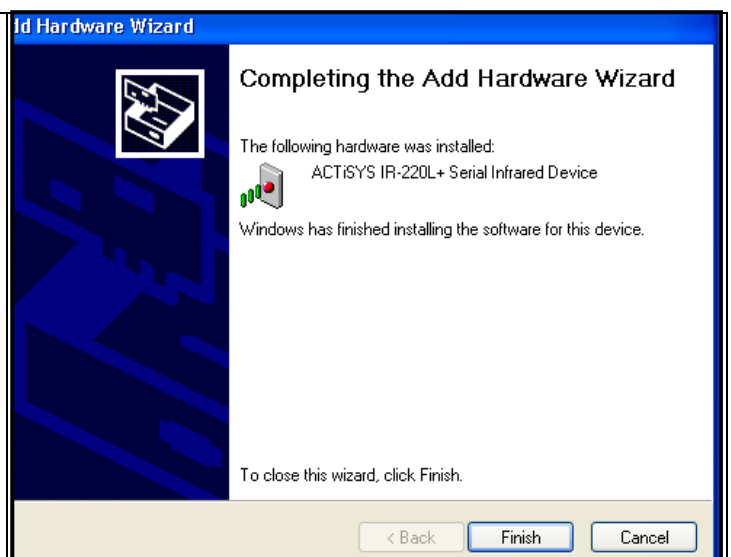**I.** Choose respective ACT model from **Infrared Device**. Then click **Next>**

J. Click **Next>**	

Add Hardware Wizard

The wizard is ready to install your hardware

Hardware to install:

ACTiSYS IR-220L+ Serial Infrared Device

To start installing your new hardware, click Next.

< Back | Next > | Cancel
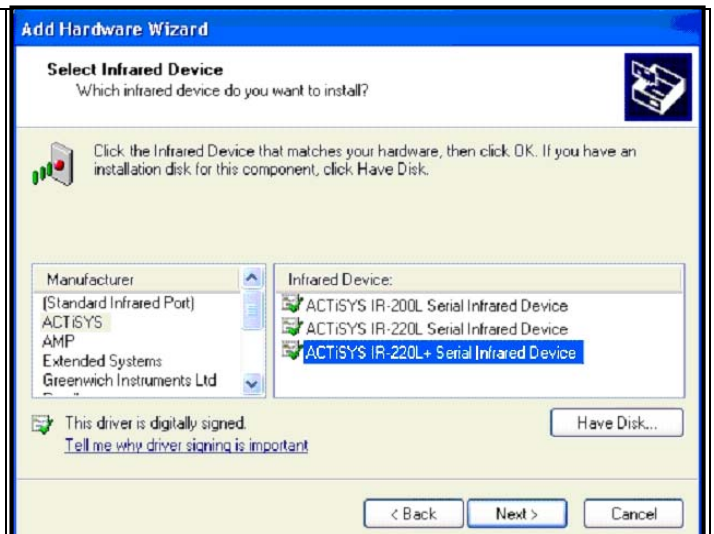
K. Choose the Com port which the device physically connected. Click **Next>**	

Add Hardware Wizard

Infrared Device Installation
Select the port you want to install the Infrared device on.

Select the Communications Port your Infrared device is attached to, then click Next.

Serial Port:

COM1
COM2

< Back | Next > | Cancel

L. Click **Finish**	

Completing the Add Hardware Wizard

The following hardware was installed:
ACTiSYS IR-220L+ Serial Infrared Device

Windows has finished installing the software for this device.

To close this wizard, click Finish.

< Back | Finish | Cancel

Version 1.5.1.1

![ACTiSYS logo] **The Wireless Connectivity Expert**

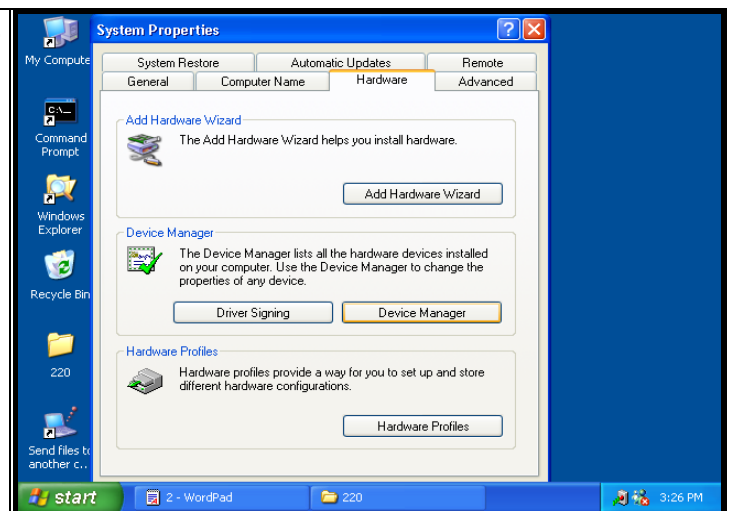## 12. WINDOWS XP UN-INSTALLATION GUIDE

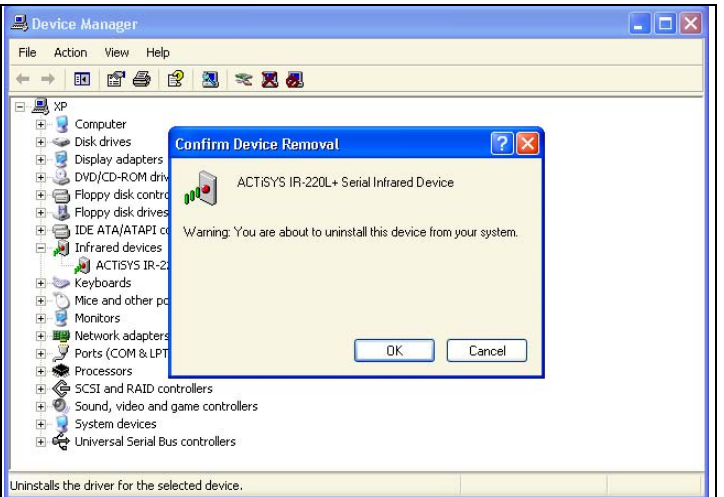|	
A. Highlight **My Computer**, then right click for quick menu.	
B. Select **Properties**.	
C. Click **Device Manager** from **Hardware** page.	
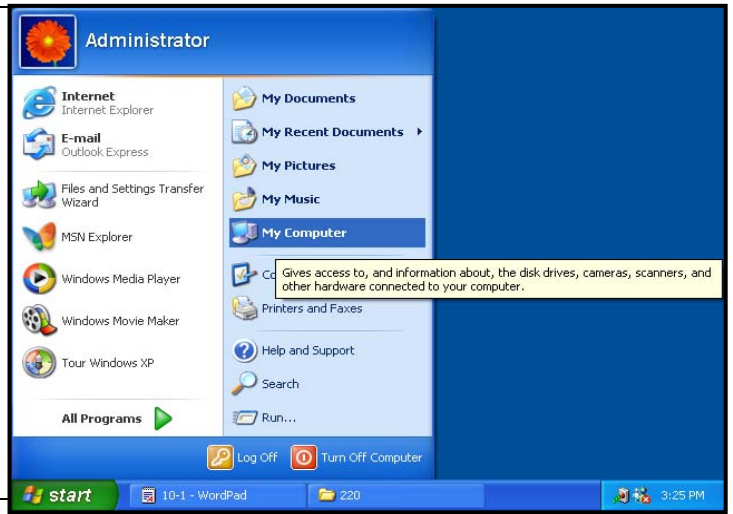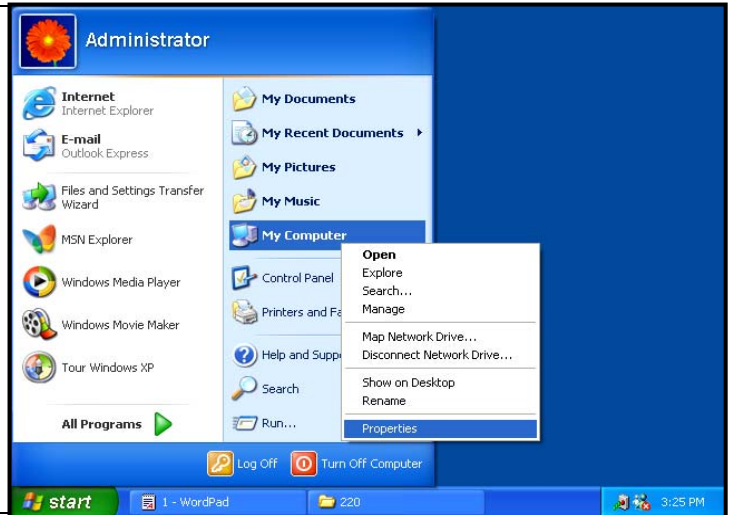
Version 1.5.1.1

The Wireless Connectivity Expert

D. Highlight the items under **Infrared device**, then right click for quick menu.	
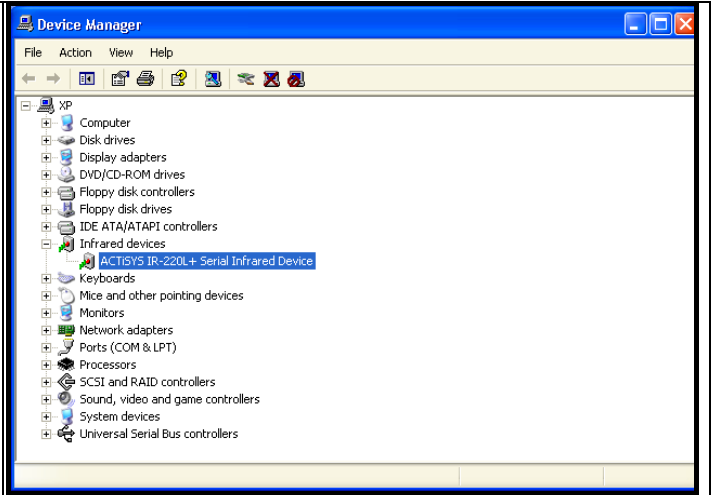
E. Click **Uninstall** from the quick menu.	
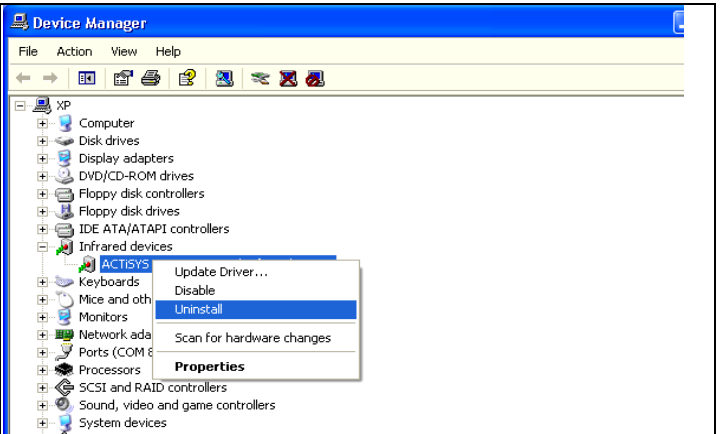
F. Click **OK.** You have successfully uninstalled the device on your system.	

G. Click **Yes** to reboot your computer.

The Wireless Connectivity Expert
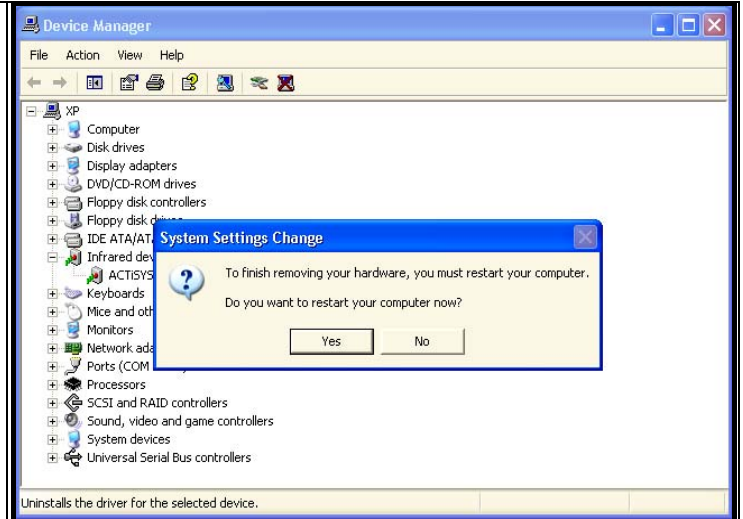
13. TROUBLE SHOOTING

For help on general and miscellaneous problems you may be experiencing with your printing, refer to the following pages for possible solutions. Look up your problem and try the solution.

SYMPTOM	PROBLEM	Solution
Can not establish link (General)	1. The two IR devices are not aligned properly. 2. Distance is too near or far. 3. The device is inactivated. 4. The device is not installed properly	1. Properly align them again. 2. Move one device to a proper distance. 3. Activate it by IR monitor. 4. Refer to Un-installation Guide to remove the device, then reinstall again.
ACT-IR200L/220L+ is connected to and takes power only from the serial port of the notebook computer.	The power-saving feature in the notebook computer either stops or reduces power output from the signal lines of the serial port to the ACT-IR200L/220L+ devices.	Set the "Power Management" control to "Advanced" or "Off" to enable power supplied from computer serial port to ACT-IR200L/220L+ devices. Go to Integrate Peripheral to set the COM port to "Infrared". Do not install more than one infrared devices on one computer.
File Transfer between IR-equipped PDA and ACT-IR device-attached host computer stops before finishing up and an error message appears.	The infrared communication is interfered. For example, something blocks out the infrared beam or the burst of string light source, etc. Software does not support the IrDA controller chip on the motherboard. Serial port is occupied and not available for IR transmission.	Check to find out the source of interference and eliminate it before trying again. If you were restoring data, simply try again. If you were doing backup something the PDA does not reset its flags and keeps stopping at the same position unless you press the RESET button once. Be very careful. DO NOT initialize (press ON key and RESET button at the same time) your PDA. Otherwise you may lose all your data. Make proper model # selection in the software as specified in your PC system user`s manual. Make sure to disconnect modem, etc. from the serial port to make it available for IR transmission.

Version 1.5.1.1

The Wireless Connectivity Expert

14. SPECIFICATIONS

Model:	ACT-IR220L+/ACT-IR220L/ACT-IR200L
Carrier:	Infrared radiation (peak wavelength: 850 to 1050 nm)
Sub-Carrier:	500 KHz for SHARP ASK-IR and ASK(37KHz) for TV remote spec.(IR200L only)
Communication Distance:	IR200L	From 0 to 80 cm. For best results, from 20 to 60 cm (7.9 in to1 ft. 11.6 in)
	IR220L	From 0 to 250 cm. For best results, from 10 to 150 cm (3.95 in to 4 ft. 11.05 in)

	SHARP ASK-IR:	IrDA-IR:
Baud Rate:	9600 bps to 38.4K bps (IR200L only)	9.6,19.2,(38.4),57.6,115.2K bps (IR200L/220L+)
Parity Bit:	Odd	None
Data:	8 bit	8 bit
Stop Bit:	1 bit	1 bit
Error Check:	Check Sum	CRC

Serial Interface:	Cable Interface (to host computer)
Signal Level:	RS-232 Standards
Connector:	DB-9 female connector
Power Source:	PC RS-232 Serial Port
Power Consumption:	0.30mW (11mA max.)
Operating temperature:	0°C to 40°C (32°F to 104°F)
Dimensions:	2.0 in. L x 1.63 in W x 0.62 in H (51mm x 41mm x 16mm)
Weight:	2.0 oz (54 gr.)
Accessories:	User Manual
Optional Accessories:	DB9/DB25 Converter ; IR Software for Windows 95/98/ME/2000

Pin Assignments of Serial Interface DB9 female connector				
Pin	Name	Symbol	I/O	Function
2	Receive Data	RXD	I	Input signal
3	Transmit Data	TXD	O	Output signal
4	Data Terminal Ready	DTR	O	For data link to build up and maintain
5	Signal Ground	GND	-	Reference ground (0V) for all signals
7	Request to send	RTS	O	Output signal from host computer
8	Clear to send	CTS	I	Input signal to host computer

Version 1.5.1.1

15. WARRANTY INFOMATION

THE FOLLOWING WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE THE OTHER RIGHTS WHICH VARY FROM STATE TO STATE:

ACTiSYS Corporation warrants the first end-user purchaser, for a period of one year from the date of purchase, that this wireless interface ("the Product") will be free from defective workmanship and materials, and agrees that it will, at its option, either repair the defect or replace the defective Product or part thereof at no charge to the purchaser for parts or for labor.

This warranty does not apply to any appearance items of the Product, any consumable items such as paper, ink ribbon, or batteries supplied with the Product, or to any equipment or any hardware, software, firmware, or peripheral other than the Product. This warranty does not apply to any Product the exterior of which has been damaged or defected, which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design, construction or interfacing. **Tampering With Label Voids Warranty**.

In order to enforce the rights under this limited warranty, the purchaser should mail, ship, or carry the Product, together with proof of purchase, to ACTiSYS.
The limited warranty described above is in addition to whatever implied warranties may be granted to purchasers by law. To the extent permitted by applicable law, ALL IMPLIED WARRANTIES INCLUDING THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR USE ARE LIMITED TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described above, or to extend the duration of any warranties beyond the time period described above on behalf of ACTiSYS Corporation.

The warranties described above shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described above, shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall ACTiSYS Corporation be liable, or in any way responsible, for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than ACTiSYS technician. Nor shall ACTiSYS Corporation be liable or in any way responsible for any incidental or consequential economic or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply for you.

Version 1.5.1.1

The Wireless Connectivity Expert

16. CONTACT INFORMATION

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Version 1.5.1.1